REMARKS

Claims 1, 5, 8, 9, 14-16, 19, 23-25, 28-30, 35 and 39 have been amended. Claims 1-39 are pending in the present application. Applicant reserves the right to pursue the original claims and other claims in this application and in other applications.

On June 18, 2003 Applicant filed formal drawings to replace the originally filed informal drawings. The Final Rejection does not indicate whether the formal drawings have been accepted by the Examiner. Accordingly, Applicant respectfully requests that the Examiner provide the status of the formal drawings filed on June 18, 2003.

Claims 1-4, 12, 13 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Addiego, U.S. Patent Number 5,917,588 (hereinafter "Addiego"). The rejection is respectfully traversed and reconsideration is respectfully requested.

Claim 1 as amended recites, a method of operating an inspection apparatus to inspect a device. The method comprises the steps of "selecting at least two of the plurality of displayed images based on an input by a user of the inspection apparatus." The method also comprises "deriving a spatial relationship between the selected images; and forming a pattern to be recognized on the device from the selected images and the derived spatial relationship." Applicant respectfully submits that Addiego fails to teach or suggest the recited method.

Addiego shows an inspection system that determines, locates and classifies defects on a wafer surface. The results of the inspection are printed, transmitted, and/or displayed on a system monitor. During wafer production, the Addiego system continuously inspects specimen wafers and looks for defects present on each specimen wafer. If defects are found, the system either alerts an operator or uploads the defect

information to a host computer. The Addiego system determines the presence of defects from acquired image data of a specimen wafer by analyzing the difference image of two adjacent reticle fields (col. 8, lines 60-63). The Addiego system always analyzes the difference image of two adjacent reticle fields, neither of which are selected by a user.

As such, Addiego fails to teach or suggest the claimed features that at least one of the plurality of displayed images are actually input/selected by a user and that the user selected image(s) is used to derive a spatial relationship. According to the present invention, user selected images of an object being inspected are used as a pattern to be recognized during a pattern recognition analysis to detect defects on the object. As shown at step 212 in Fig. 5 of the present application, the user selects at least one image of the object. Once selected, a relationship between the images is determined (step 214).

This feature of the claimed invention allows the user to select the images to be searched so undesirable images will not become part of the recognition process – this is something the Addiego system cannot do because Addiego does not allow a user to select any images to be used for the pattern recognition process. In Addiego, a difference image comprised of adjacent images are always used. There is no feature for a user to select the images used for pattern recognition (as recited in claims). As such, Addiego is different than the claimed invention. Thus, the claimed invention is believed to be patentable over Addiego. Claims 2-4, 12, 13 and 18 depend from claim 1 and are allowable along with claim 1. The rejection should be withdrawn and the claims allowed.

Claims 5-11 and 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Addiego in view of Levy et al., U.S. Patent Number 4,579,455

("Levy"). The rejection is respectfully traversed and reconsideration is respectfully requested.

Claims 5-11 and 14-17 depend from claim 1. As set forth above, Addiego fails to teach the claim 1 method steps of "selecting at least two of the plurality of displayed images based on an input by a user of the inspection apparatus [and] deriving a spatial relationship between the selected images." Levy also fails to teach these steps.

Levy by contrast shows a representation of two die patterns (illustrating relative positioning of window matrices used for comparisons). The comparison matrices are formed across the representation of the die patterns to compute error values until the entire area of each representation is covered. Thus, there is no teaching of a method that includes "selecting at least two of the plurality of displayed images based on an input by a user of the inspection apparatus [and] deriving a spatial relationship between the selected images." As such, Levy fails to teach or suggest the same claim features that Addiego fails to teach or suggest. As such, the combination of Levy and Addiego must fails to teach or suggest the claimed invention. Thus, for at least the foregoing reasons, the rejection should be withdrawn and the claims allowed.

Claims 19-39 stand rejected for the same reasons given for claims 1-18. Claim 19 recites "selecting at least two of the plurality of displayed images based on at least one selection by a user of an inspection apparatus; deriving a relationship between the selected images; and forming a pattern to be recognized on the wafer from the selected images and the derived relationship." Applicant respectfully submits that Addiego fails to teach, suggest or disclose the recited method for at least the reasons set forth above.

Claims 20-22 depend from claim 19 and are allowable along with claim 19 for at least the reasons set forth above and on their own merits. Claim 23 as amended

recites "forming a pattern to be recognized on the device from the selected images and a spatial relationship between the images, wherein features that are not to be included in the pattern to be recognized are filtered out during said selecting step." None of the cited references teach or suggest such a filtering step.

Moreover, claims 24-39 recite a processor for "inputting at least two user selected images from the input device, deriving a spatial relationship between the user selected images and forming a pattern to be recognized on the manufacturing device from the user selected images and the derived spatial relationship." As set forth above, the cited references fail to teach, suggest or disclose these claim elements. The rejection should be withdrawn and the claims allowed.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

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